

# MINGDONG LI

My Homepage

The Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong

+852 62059030 +86 15221361908 Email: mlidr@connect.ust.hk

## EDUCATION

---

**The Hong Kong University of Science and Technology** *Sep. 2021 - Present*

PhD in Individualized Interdisciplinary Program (Robotics and Autonomous System)

Academy of Interdisciplinary Studies

Computational Cognitive Engineering Lab

Supervisor: Prof. Yiwen WANG, Prof. Qifeng CHEN (co-supervision)

**Zhejiang University** *2018-2021*

Master of Mechanical Engineering

The State Key Lab of Fluid Power & Mechatronic Systems

Supervisor: Prof. Yixiong FENG

**Tongji University** *2013-2018*

Bachelor of Mechanical Design Manufacture and its Automation

Pilot Sino-German Program for Undergraduate in Mechanical Engineering

## RESEARCH INTEREST

---

Brain-Machine Interfaces, Brain-inspired Intelligence, NeuroAI, Wearable Device, Product Design

## WORKING PAPER

---

1. **Mingdong Li**, Shuhang Chen, Zhiwei Song, Xiang Zhang, Camilo Libedinsky, Rosa So, Yiwen Wang\*. Assessing Modifications of Functional Neural Connectivity in Point Process Filter for Neuroprosthetic Control, *IEEE Transactions on Biomedical Engineering*. (to be submitted)
2. Zhiwei Song, Xiang Zhang, **Mingdong Li**, Jieyuan Tan, Yiwen Wang\*. An Online Knowledge Transfer Framework for Task Learning in Brain-Machine Interfaces, *IEEE Transactions on Neural Systems and Rehabilitation Engineering*. (to be submitted)
3. **Mingdong Li**, Shuhang Chen†, Xiang Zhang, Yiwen Wang\*. Neural Correlation Integrated Adaptive Point Process Filtering on Population Spike Trains, *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 2024. (under review, †: co-first author)

## PUBLICATION (JOURNAL)

---

1. **Mingdong Li**, Shanhe Lou\*, Hao Zheng, Yixiong Feng, Yicong Gao, Siyuan Zeng, Jianrong Tan. A Cognitive Analysis-based Key Concepts Derivation Approach for Product Design, *Expert Systems With Applications*, 2024.
2. **Mingdong Li**, Shanhe Lou\*, Yicong Gao, Hao Zheng, Bingtao Hu, Jianrong Tan. A Cerebellar Operant Conditioning-inspired Constraint Satisfaction Approach for Product Design Concept Generation, *International Journal of Production Research*, 2023.
3. Xuanyu Wu, Zhaoxi Hong\*, Yixiong Feng, **Mingdong Li**, Shanhe Lou, Jianrong Tan. A Semantic Analysis-driven Customer Requirements Mining Method for Product Conceptual Design, *Scientific Reports*, 2022.
4. Yixiong Feng, **Mingdong Li**, Shanhe Lou\*, Yicong Gao, Jianrong Tan. A Digital Twin-Driven Method for Product Performance Evaluation Based on Intelligent Psycho-Physiological Analysis, *Transaction of the ASME, Journal of Computing and Information Science in Engineering*, 2021.

## PUBLICATION (CONFERENCE)

---

1. **Mingdong Li**, Mingyi Wang, Yiwen Wang\*. An Adaptive Superposition Point Process Model with Neuronal Encoding Engagement Identification, *2024 46th Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC)*. IEEE, 2024.
2. Zixu Wang, Shuhang Chen<sup>†</sup>, **Mingdong Li**, Yiwen Wang\*. Tracking Dynamic Conditional Neural Correlation during Task Learning, *2024 46th Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC)*. IEEE, 2024. (*accepted, <sup>†</sup>: co-first author*)
3. **Mingdong Li**, Shuhang Chen, Zhijia Zhao, Yiwen Wang\*. Tracking the Dynamic Functional Neural Connectivity via Conjugate Gradient Optimization, *2023 45th Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC)*. IEEE, 2023.
4. **Mingdong Li**, Shuhang Chen, Xi Liu, Zhiwei Song, Yiwen Wang\*. Modeling Neural Connectivity in a Point-Process Analogue of Kalman Filter, *2022 44th Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC)*. IEEE, 2022.

## MENTORING AND TEACHING

---

Mentor for a summer intern and final-year project	2024.07-2025.06
Teaching Assistant, ELEC4130 Machine Learning on Images	2023 Spring
Teaching Assistant, EMIA4110 Practical Machine Learning	2024 Spring

## ACTIVITIES

---

Lecturer Assistant, 4th International Workshop on Neural Engineering & Rehabilitation	2023.08
Poster Presenting, 3rd International Workshop on Neural Engineering & Rehabilitation	2022.05

## PRIZES AND ACHIEVEMENTS

---

NextGen Scholar Award (issued by IEEE Annual International Conference of Engineering in Medicine and Biology Society (EMBC))	2024.06
Zhejiang University Graduation Scholarship (Top 1%)	2021.03
ZHEJIANG Lab AI Competition (Multiple Objects Tracking track), Excellence Prize	2019.10
1st prize in No.7 National College Mechanical Design Innovation Competition	2016.07
1st prize in Shanghai College Mechanical Innovation Competition	2016.04
Tongji Academic Scholarship, 2nd prize for 2 times and 3rd prize for 1 time	2013-2018